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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,859	11/20/2001	Ilona Busenbender	GP-300807	4869

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EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/996,859

Applicant(s)

BUSENBENDER, ILONA

Examiner

Tracy Dove

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4 and 8 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5-7 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 4. 6) ☐ Other:

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## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 11/20/01 and 7/23/02 have been considered by the examiner.

### ***Election/Restrictions***

Applicant's election of Group I, claims 1-9, in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claims Analysis***

The claims recite the phrase "in the nanometer range", which is interpreted as "in the range of 0.1-12 nm" (page 14, lines 7-9).

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: it is suggested that "comprising flow passages and/or flow chambers" be amended to recite "comprising at least one of flow passages or flow chambers". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 4, 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the phrase "i.e. so-called zeolites" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 8 and 9 recite the limitation "the inner side of the tubes". There is insufficient antecedent basis for this limitation in the claims.

Claim 8 recites the limitations "the anode side" and "the fuel cells". There is insufficient antecedent basis for these limitations in the claim.

Claim 9 recites the limitations "the cathode side" and "the fuel cells". There is insufficient antecedent basis for these limitations in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Roeser et al., US 6,536,546 B2.

Roeser teaches a method for shortening the starting time of CO (carbon monoxide) oxidation catalytic converter in mobile fuel cell systems. Gas components which delay the start

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are removed from the reformat gas of the gas-generating system using an absorber during the cooling-down phase (at low temperatures) after the vehicle has been switched off (abstract). The absorber material may be a zeolite with hydrophilic properties with a high selectivity and affinity with respect to H<sub>2</sub>O (col. 1, lines 45-62). The absorber comprises an outer casing 2 with a cylindrical pipe 3 passing through it. The absorber material is located in the space between the outer casing and the pipe (coating the gas flow passage). The absorber is desorbed owing to the high temperature of the reformat gas during the operating phase (col. 3, lines 41-48). The reformat gas flows via a feed line through the absorber into a fuel cell. The reformat gas contains fuel for the anode of the fuel cell. Thus, the absorber is inherently located at the anode side of the fuel cell.

Thus the claims are anticipated.

***Allowable Subject Matter***

Claims 2, 3, 5-7 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the claims are directed to a fuel cell system comprising flow passages and/or flow chambers wherein at least a part of the flow passages and/or flow chambers are provided with a coating which, at low temperatures, takes up water in distributed form and releases the water at least in part again at higher temperatures. Claims 2 and 3 are directed to specific silicate materials that have pore sizes in the nanometer range. Claim 5 is directed toward a coating comprising a polysiloxane. Claims 6 and 7 are directed toward a coating comprising a polymer with acid radicals or a

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polymer with alkaline radicals which have a chemical affinity for water. Claim 9 requires the coating to be present at the cathode side of the fuel cell.

The prior art does not teach or suggest the claimed invention (claims 2, 3, 5-7 and 9). Roeser teaches an absorber comprising a zeolite material, but does not teach the pore size of the zeolite material. Roeser does not teach or suggest the coating of claims 5-7.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamase et al. US 5,149,600 teaches a fuel cell system comprising an adsorber and a fuel cell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached Monday-Thursday (9:00 AM-7:30 PM). My supervisor is Pat Ryan, who can be reached at (703) 308-2383. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax numbers are 703-872-9310 (after non-final) and 703-872-9311 (after final).

Tracy Dove  
Patent Examiner  
Technology Center 1700  
Art Unit 1745

December 1, 2003